

1. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $7x + 8y = 6$  and passing through the point  $(10, 8)$ .

- A.  $m \in [0.99, 1.5]$   $b \in [-2, 1]$
  - B.  $m \in [0.06, 0.99]$   $b \in [-4.43, -2.43]$
  - C.  $m \in [0.99, 1.5]$   $b \in [-4.43, -2.43]$
  - D.  $m \in [-1.64, -0.82]$   $b \in [13.43, 23.43]$
  - E.  $m \in [0.99, 1.5]$   $b \in [1.43, 4.43]$
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2. Solve the equation below. Then, choose the interval that contains the solution.

$$-6(15x + 17) = -3(-19x + 18)$$

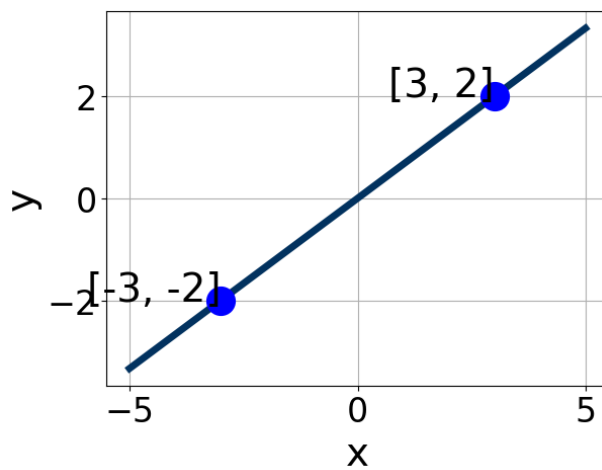
- A.  $x \in [-5.08, -4.19]$
  - B.  $x \in [-0.63, 0.17]$
  - C.  $x \in [0.24, 1.68]$
  - D.  $x \in [-1.11, -0.91]$
  - E. There are no real solutions.
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3. Solve the equation below. Then, choose the interval that contains the solution.

$$-11(-3x + 17) = -7(4x - 14)$$

- A.  $x \in [-3.1, 0]$
  - B.  $x \in [3.8, 6.6]$
  - C.  $x \in [0.6, 2.7]$
  - D.  $x \in [16.2, 18.7]$
  - E. There are no real solutions.
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4. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [-1.1, -0.5]$ ,  $B \in [0.97, 1.03]$ , and  $C \in [-1, 1]$   
B.  $A \in [-1.1, -0.5]$ ,  $B \in [-2.47, -0.95]$ , and  $C \in [-1, 1]$   
C.  $A \in [-4.3, -0.7]$ ,  $B \in [1.95, 3.12]$ , and  $C \in [-1, 1]$   
D.  $A \in [1.4, 2.8]$ ,  $B \in [1.95, 3.12]$ , and  $C \in [-1, 1]$   
E.  $A \in [1.4, 2.8]$ ,  $B \in [-3.22, -1.66]$ , and  $C \in [-1, 1]$

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5. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{-9x - 4}{7} - \frac{-9x - 9}{5} = \frac{3x + 8}{3}$$

- A.  $x \in [-1.6, 0.2]$   
B.  $x \in [-3.9, -0.8]$   
C.  $x \in [-7.3, -5.8]$   
D.  $x \in [-11.5, -9.5]$   
E. There are no real solutions.

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6. Find the equation of the line described below. Write the linear equation

in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $9x - 8y = 11$  and passing through the point  $(-2, -7)$ .

- A.  $m \in [-1.2, -0.9]$   $b \in [-9.45, -8.64]$
  - B.  $m \in [-0.97, -0.79]$   $b \in [-9.45, -8.64]$
  - C.  $m \in [-0.97, -0.79]$   $b \in [-5.05, -4.79]$
  - D.  $m \in [-0.97, -0.79]$   $b \in [8.23, 9.33]$
  - E.  $m \in [0.67, 0.9]$   $b \in [-5.25, -5.01]$
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7. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{3x - 9}{8} - \frac{-8x + 9}{5} = \frac{7x + 6}{3}$$

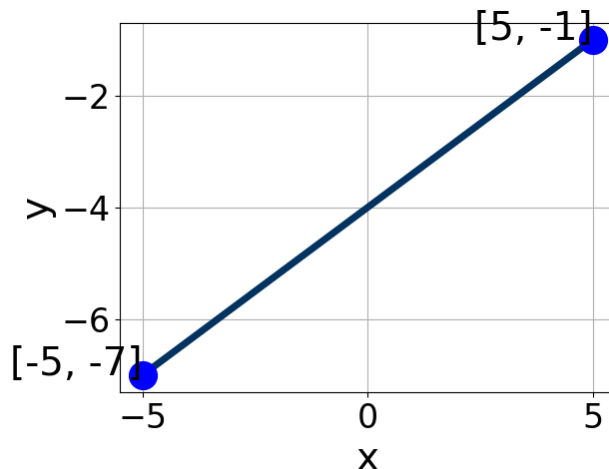
- A.  $x \in [-4.7, -1.7]$
  - B.  $x \in [1.23, 4.23]$
  - C.  $x \in [-14.74, -11.74]$
  - D.  $x \in [-67.98, -64.98]$
  - E. There are no real solutions.
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8. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$(4, 5)$  and  $(10, -5)$

- A.  $m \in [-7.67, -0.67]$   $b \in [0.2, 2.9]$
- B.  $m \in [-7.67, -0.67]$   $b \in [-13, -11]$
- C.  $m \in [-1.33, 5.67]$   $b \in [-23.5, -18.9]$
- D.  $m \in [-7.67, -0.67]$   $b \in [9.9, 13.2]$
- E.  $m \in [-7.67, -0.67]$   $b \in [-16.1, -13.2]$

9. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [3, 12]$ ,  $B \in [-7.5, -4.4]$ , and  $C \in [20, 25]$   
B.  $A \in [-0.6, 0.4]$ ,  $B \in [-3, -0.1]$ , and  $C \in [3, 7]$   
C.  $A \in [-11, -2]$ ,  $B \in [3.8, 7.8]$ , and  $C \in [-20, -15]$   
D.  $A \in [3, 12]$ ,  $B \in [3.8, 7.8]$ , and  $C \in [-20, -15]$   
E.  $A \in [-0.6, 0.4]$ ,  $B \in [-0.6, 1.4]$ , and  $C \in [-13, 0]$

10. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$(9, -7)$  and  $(-10, -3)$

- A.  $m \in [-0.59, 0.04]$   $b \in [6.5, 8.1]$   
B.  $m \in [-0.59, 0.04]$   $b \in [4.7, 5.5]$   
C.  $m \in [-0.59, 0.04]$   $b \in [-17.2, -14.8]$   
D.  $m \in [-0.59, 0.04]$   $b \in [-5.5, -1.1]$   
E.  $m \in [0.07, 0.95]$   $b \in [-2.3, 0.2]$